

CLAIMS

1. An adjustable stepless hinge shaft comprised of:

a male shaft tube consisting of:

a rod member;

5 a tubular hinge shaft disposed at one extremity of the said rod member;

a mounting section disposed at the opposite extremity of the said rod member;

a female shaft tube consisting of a tubular sleeve conjoined to the said tubular hinge shaft and a mounting section at one extremity of the said tubular sleeve; and an adjustment rod that is fastened and sleeve coupled into the said male shaft tube tubular hinge shaft; the features of which are:

10 the said male shaft tube includes:

a flange formed along the surface of the said tubular hinge shaft;

a tapered hole section at one extremity of the said tubular hinge shaft;

15 a threaded hole section at the opposite extremity of the said tubular hinge shaft;

one or more lengthwise channel on the said tubular hinge shaft;

the said female shaft tube includes:

a columnar bore in the said tubular sleeve;

- an annular groove near the entrance of the said columnar bore;
- the said adjustment rod includes:
- a tapered rod;
 - a threaded stud at one extremity of the said tapered rod;
 - 5 a round projecting edge at the proximal end of the said threaded stud;
 - a columnar passage in the said tapered rod;
 - a slot through the said tapered rod, the said threaded stud and the said round projecting edge that is thereby articulated along the entire supportive rod component.
- 10 2. As mentioned in Claim 1 of the adjustable stepless hinge shaft invention herein, the said round projecting edge on the said adjustment rod includes:
A two-sided parallel, square, or polygonal head; or a hexagonal, square or pentagonal socket in the end surface of its circular head.
3. As mentioned in Claim 1 of the adjustable stepless hinge shaft invention herein,
15 the present invention includes:
the said male shaft tube tubular hinge shaft has a tapered tubular aspect at its outer end that is of a larger diameter;
the said female shaft tube tubular sleeve has a through-hole formed at the

bottom portion of its said columnar bore; the said adjustment rod lacks the said round projecting edge at its proximal end, but instead has the said hexagonal, pentagonal, or square socket or two sided parallel head disposed at the proximal end of its tapered rod.

5 4. As mentioned in Claim 1 and Claim 3 of the adjustable stepless hinge shaft invention herein, the present invention includes a plurality of annular oil grooves formed along the surface of the said male shaft tube tubular hinge shaft.